

What is claimed is:

1. An optical disc assembly, comprising:
a first layer containing optically readable structures which are trackable by an optical
disc reader and which have encoded speed information enabling the optical disc reader to
rotate the optical disc assembly at a speed that is determinable from said speed information;
and

at least one insert having a surface capable of receiving an analyte which can be
detected by the optical disc reader.

2. The optical disc assembly according to claim 1 wherein the optical disc reader is a
CD reader or a DVD reader.

3. The optical disc assembly according to claim 1 wherein the first layer includes a
surface impressed with said optically readable structures which are coated with a first
reflective layer.

4. The optical disc assembly according to claim 3 wherein the first reflective layer is
semi-reflective, and the first layer contains a refractive material and is capable of focusing a
reading beam of the optical disc reader on the first reflective layer.

5. The optical disc assembly according to claim 3 further comprising a second layer,
said insert and the first reflective layer being located between the first layer and the second
layer.

6. The optical disc assembly according to claim 5 wherein the second layer contains a
refractive material and is capable of focusing a reading beam of the optical disc reader on the
first reflective layer.

7. The optical disc assembly according to claim 6 wherein said surface of the insert is
between the first layer and another surface of the insert.

8. The optical disc assembly according to claim 6 wherein the insert is replaceable
and contains glass or plastic.

- 10
9. The optical disc assembly according to claim ~~8~~⁹ wherein the second layer is a cover.
- 11
10. The optical disc assembly according to claim ~~8~~⁹ further comprising at least one
5 counterweight insert.
- 12
11. The optical disc assembly according to claim ~~8~~⁷ wherein the second layer includes
a surface impressed with optically readable structures which are coated with a semi-reflective
layer.
- 13
12. The optical disc assembly according to claim ~~11~~¹² wherein said surface of the insert
10 is located between the second layer and another surface of the insert.
- 14
13. The optical disc assembly according to claim ~~11~~¹² wherein at least one of the first
15 layer and the second layer includes data having encoded information for conducting an assay
on the analyte.
- 15
14. The optical disc assembly according to claim ~~5~~⁶ wherein the second layer includes
a surface impressed with optically readable structures which are coated with a second
20 reflective layer.
- 16
15. The optical disc assembly according to claim ~~14~~¹⁵ wherein the first reflective layer
is semi-reflective, and the first layer contains a refractive material and is capable of focusing
a reading beam of the optical disc reader on the second reflective layer.
- 17
16. The optical disc assembly according to claim ~~15~~¹⁶ wherein at least one of the first
25 layer and the second layer includes data having encoded information for conducting an assay
on the analyte.
- 18
17. The optical disc assembly according to claim ~~16~~¹⁷ wherein said surface of the insert
30 is between the second layer and another surface of the insert.

20
18. The optical disc assembly according to claim 3 further comprising a second layer, the first reflective layer being located between the first layer and the second layer, and the insert being at least partially embedded in the first layer or the second layer.

5
19. The optical disc assembly according to claim 4 wherein the first reflective layer has a reflectivity of between 18 and 30%.

24
20. An optical disc assembly, comprising:
a hologram containing optically readable structures which have encoded tracking information, and speed information enabling an optical disc reader to rotate the optical disc assembly at a speed that is determinable from said speed information; and
at least one insert having a surface capable of receiving an analyte which can be detected by the optical disc reader.

21
24
21. The optical disc assembly according to claim 20 wherein the optical disc reader is a CD reader or a DVD reader.

26
24
22. The optical disc assembly according to claim 20 further comprising a layer which contains a refractive material and is capable of focusing a reading beam of the optical disc reader on an image plane of the hologram.

27
26
23. The optical disc assembly according to claim 22 wherein said surface of the insert is within or adjacent to the image plane of the hologram.

28
26
24. The optical disc assembly according to claim 22 wherein the insert is located between the hologram and said layer.

29
28
25. The optical disc assembly according to claim 24 wherein said layer includes a surface impressed with optically readable structures which are coated with a semi-reflective layer.

30
29
26. The optical disc assembly according to claim 25 wherein at least one of said layer and the hologram includes data having encoded information for conducting an assay on the analyte.

22
27. The optical disc assembly according to claim 1 further comprising the analyte on said surface of the insert.

21
28. The optical disc assembly according to claim 3 further comprising the analyte which is located on said surface of the insert and is adjacent to the first reflective layer.

19 15
29. The optical disc assembly according to claim 14 further comprising the analyte which is located on said surface of the insert and is adjacent to either the first reflective layer or the second reflective layer.

33 24
30. The optical disc assembly according to claim 20 further comprising the analyte on said surface of the insert.

26
31. The optical disc assembly according to claim 22 further comprising the analyte which is located on said surface of the insert and is adjacent to the image plane of the hologram.

32. The optical disc assembly according to claim 31 wherein at least part of the analyte is located within the image plane of the hologram.

35
33. An optical disc assembly, comprising:
optically readable structures which have encoded tracking information, and speed information enabling an optical disc reader to rotate the optical disc assembly at a speed that is determinable from said speed information; and

at least one analyte section capable of receiving an insert having a surface which is capable of receiving an analyte which can be read by the optical disc reader.

36 35
34. The optical disc assembly according to claim 33 wherein said optical disc reader is a CD reader or a DVD reader.

37 35
35. The optical disc assembly according to claim 33 comprising at least two layers, said analyte section being located between said two layers.

23
36. A method for detecting an analyte held by the optical disc assembly of claim 1,
comprising:

providing the optical disc assembly to the optical disc reader;
reading the optically disc assembly; and
5 obtaining a signal which is indicative of the presence of the analyte.

34 37. A method for detecting an analyte held by the optical disc assembly of claim 24,
comprising:

providing the optical disc assembly to the optical disc reader;
10 reading the optically disc assembly; and
obtaining a signal which is indicative of the presence of the analyte.

38. A kit for detecting an analyte, comprising:
a disc including a first layer that contains optically readable structures which have
15 encoded tracking information, and speed information enabling an optical disc reader to rotate
the disc at a speed that is determinable from said speed information; and
an insert having a surface capable of receiving the analyte, the insert being capable of
being coupled to the disc to enable the optical disc reader to detect the analyte held by the
20 insert.